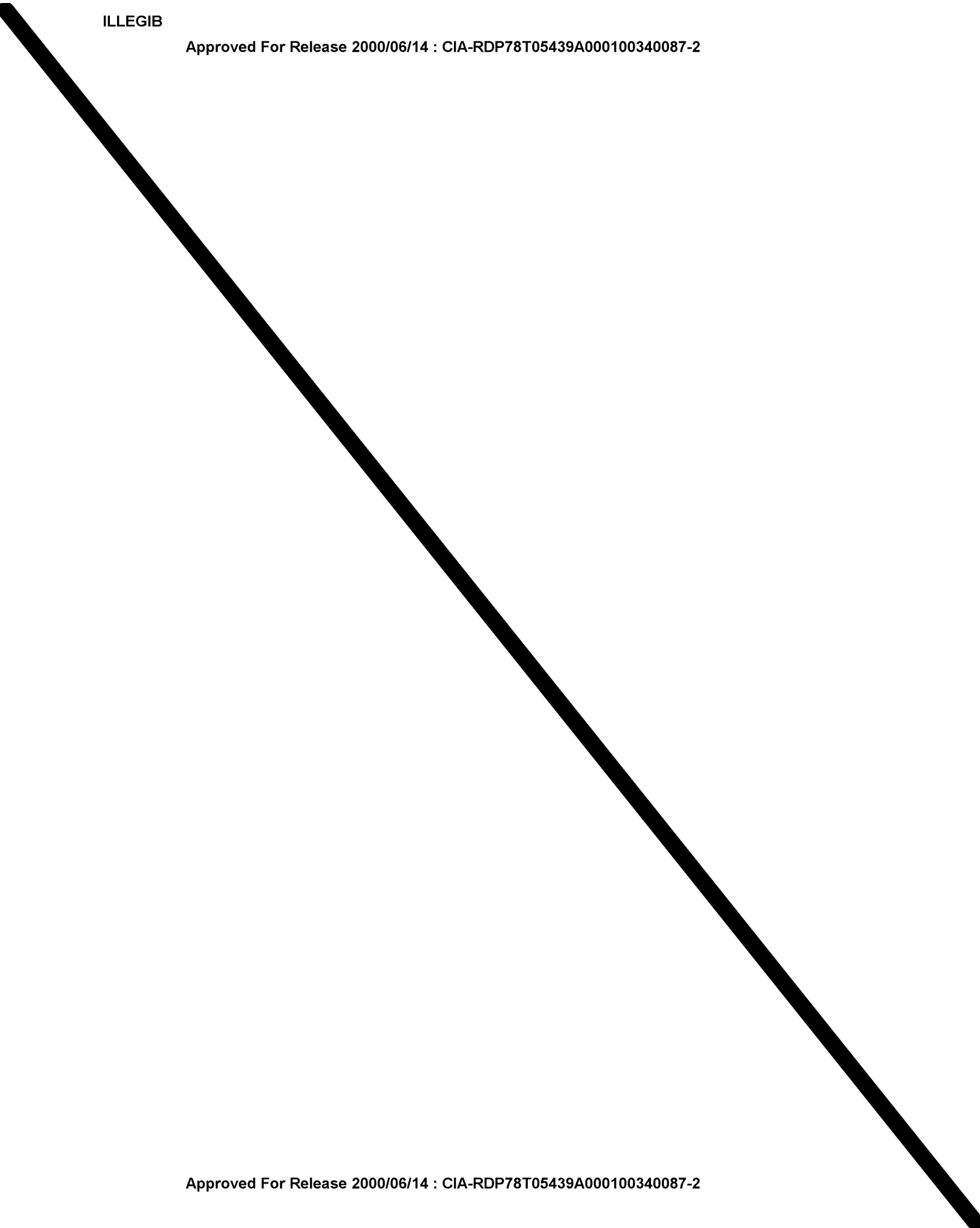

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[redacted]

PROPULSION TEST COMPLEX
KURUMOCH, USSR

PIC/JR-1002/60
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PREFACE

This joint photographic intelligence report has been prepared by the Army, Navy, and Central Intelligence Agency in response to general requirements concerning guided missile activity in the USSR. It presents a photographic analysis of a rocket propulsion test complex under construction near Kurumoch, USSR and estimates its significance and impact on future Soviet missile programs.

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SUMMARY

A large propulsion test complex is being constructed in an isolated wooded area along the Volga River near the village of Kurumoch between the Kuybyshev and Stavropol industrial complexes. This test complex represents a major Soviet rocket engine test facility, and therefore provides an important link in determining the capabilities of Soviet rocketry. Analysis of the photography reveals that the complex is being constructed to develop a new high-thrust liquid-propellant rocket engine, probably for future Soviet space programs. Since there are no manufacturing facilities at the complex, associated production facilities are probably located nearby, either at Kuybyshev or Stavropol.

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INTRODUCTION

The Kurumoch Propulsion Test Complex, covered by photography of [redacted] is located at 53-31N 49-49E just north of the Volga River, 23 nautical miles (nm) northwest of Kuybyshev, and 12 nm east of Stavropol (see Figure 1). The complex is composed of a static test area, a support area, and a housing area (see Figure 2), with each area being served by roads and rail spurs which connect with the main road and rail line between Kuybyshev and Stavropol. Air support could be provided by the road- and rail-served Kurumoch Airfield, 13 nm to the east, which at the time of photography was nearing completion. Adequate power for operations at the complex is supplied by the Zhigulevsk Hydroelectric Power Plant Kuybyshev GES Lenin at the nearby Zhigulevsk Dam, and water is supplied from the Volga River by buried pipelines. Housing facilities within the complex will provide a total of about 222 family units and billets for approximately 510 single personnel.

STATIC TEST AREA

The Static Test Area, situated about 1.4 nm north of the Support Area, is being constructed in a wooded area, 3,940 by 3,840 feet, which is secured by a single wire fence and guard towers. The chief features of the area are a large static test stand with a nearby control bunker position, a fabrication building, numerous liquid-storage tanks, extensive ditching, and other supporting facilities (see Figure 3). On-site housing provides about 86 billets for single personnel, and a small housing development nearby, if taken over by this operation, would provide approximately 30 family units. Water for the area operations will be supplied from the Volga River by a buried pipeline. Power will probably be supplied from the hydroelectric plant at the Zhigulevsk Dam by overhead transmission lines. Other

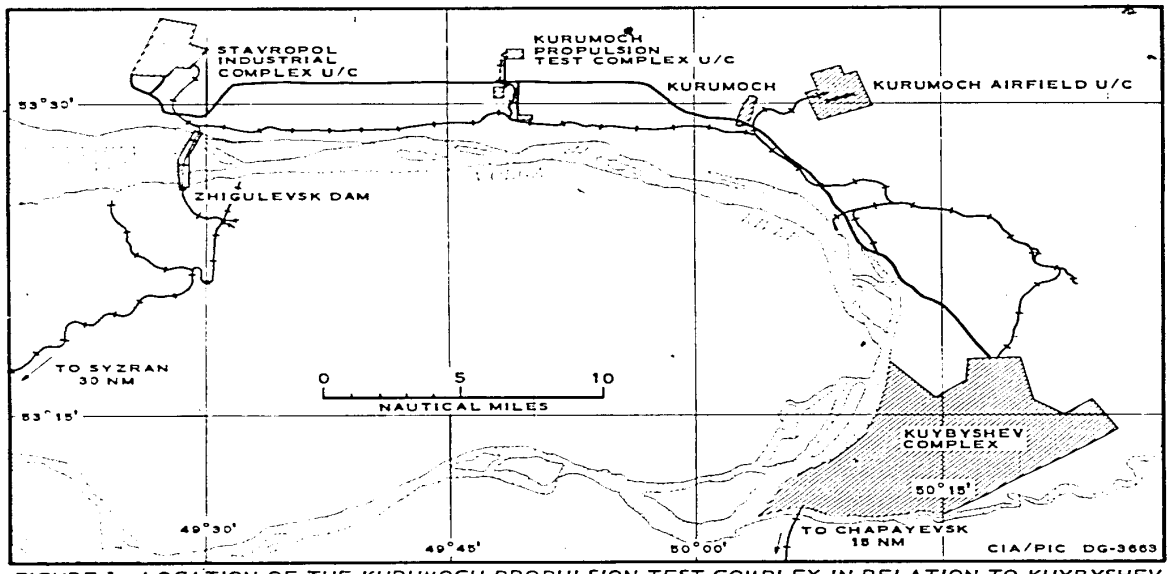

FIGURE 1. LOCATION OF THE KURUMOCH PROPULSION TEST COMPLEX IN RELATION TO KUYBYSHEV AND STAVROPOL INDUSTRIAL COMPLEXES.

[redacted]

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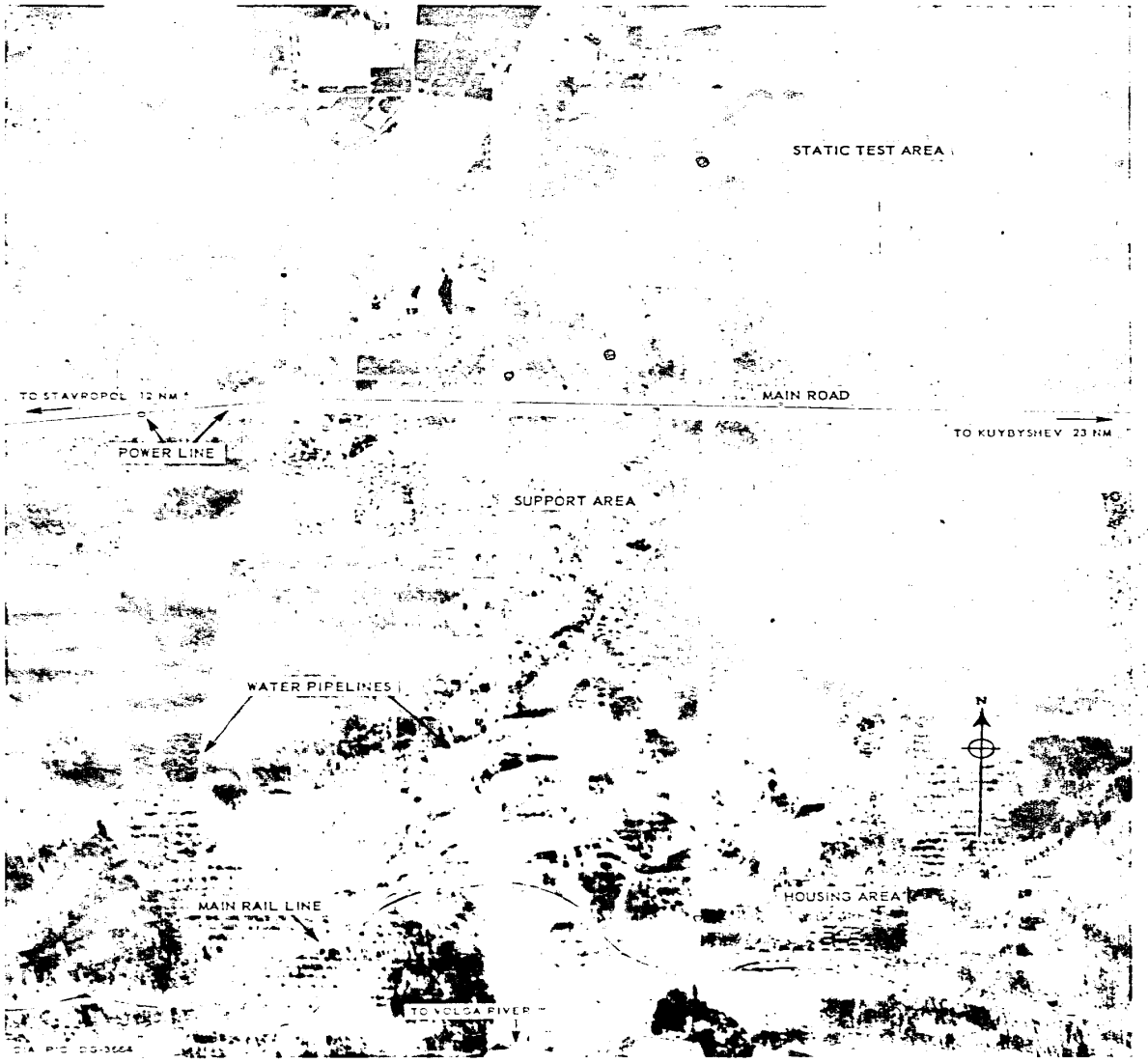

FIGURE 2. PROPULSION TEST COMPLEX. The complex is situated in an isolated wooded area between Kuybyshev and Stavropol.

logistic support will be supplied by an all-weather road and rail spur, both of which connect with the main road and rail serving Kuybyshev and Stavropol. A detailed description of facilities follows (item numbers correspond with those on Figure 3). 25X1D

(1) Static test stand under construction, [redacted] feet and approximately 60 to 70 feet high. A configurational analysis of this structure and its surrounding terrain is portrayed in Figure 4. Two bridge piers are situated on the northern slope of the pit, probably for supporting a road bridge to service the test stand. Since the test stand is in an early stage of construction, its ultimate height cannot be positively determined; however, it may possibly reach a height of [redacted] above the floor of the pit, which approximates that of the possible abutment structure. 25X1D

(2) Probable control bunker under construction which consists of an excavation [redacted] 25X1D

(3) Unidentified structure. This structure is in line with the two piers on the slope of the pit and could be an abutment for a servicing bridge as well as a junction point for the several servicing pipelines.

25X1D [redacted]

(5) Three buildings and two sheds. These structures range from 65 by 40 feet to [redacted] 25X1D

(6) Fabrication-type building under construction. The building is composed of two sections, one of which has load-bearing walls. The section with load-bearing walls measures [redacted] and could house an overhead traveling crane. The other section measures [redacted] feet and does not have load-bearing walls. 25X1D 25X1D 25X1D 25X1D

(7) Building under construction, [redacted]

(8) Probable building under construction, [redacted] Three unidentified structures are being erected within the projected walls of the building.

(9) Three buildings, one of which is under construction. These buildings range in size from [redacted] 25X1D

(10) Building under construction, [redacted]. Nearby are two liquid-storage tanks under construction, each 35 feet in diameter, which 25X1D

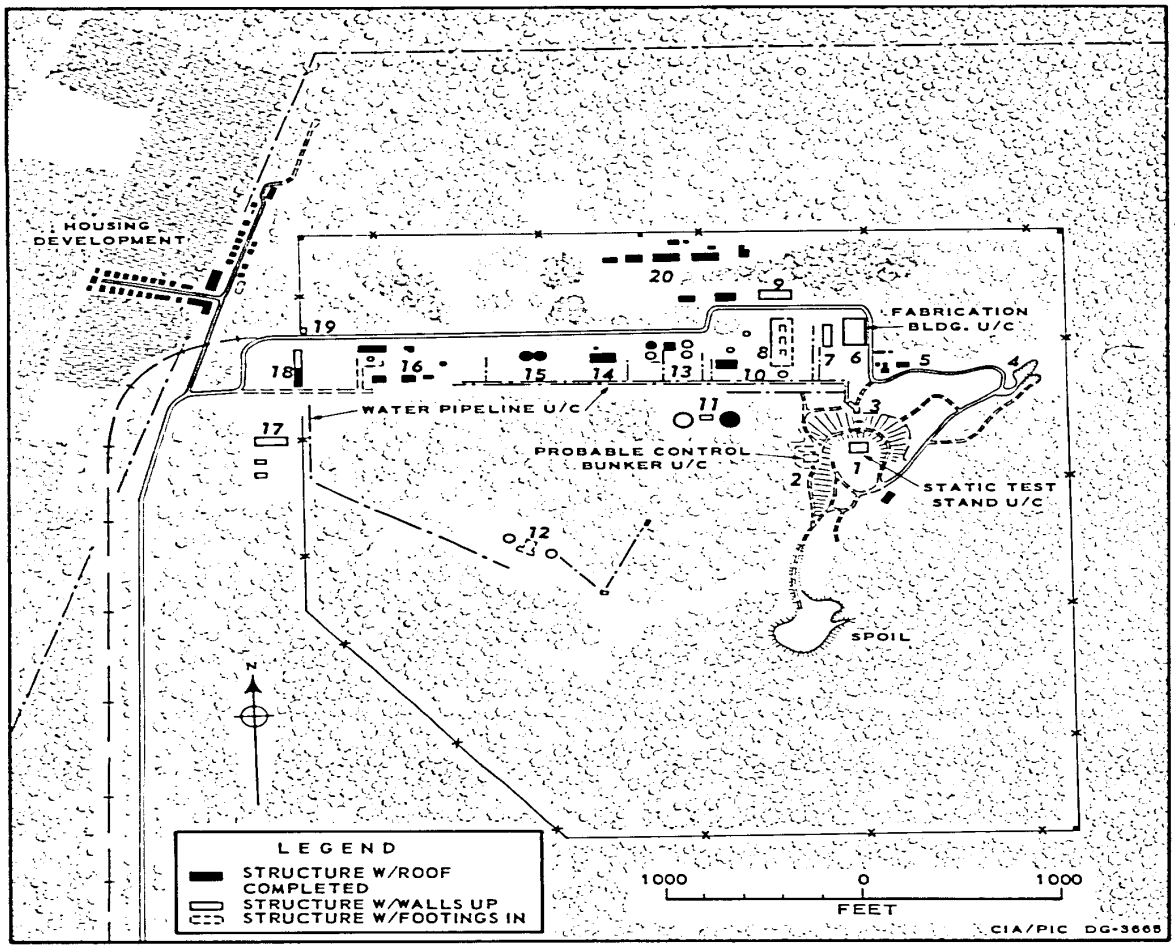

FIGURE 3. STATIC TEST AREA. The main feature of the area is a large static test stand under construction.

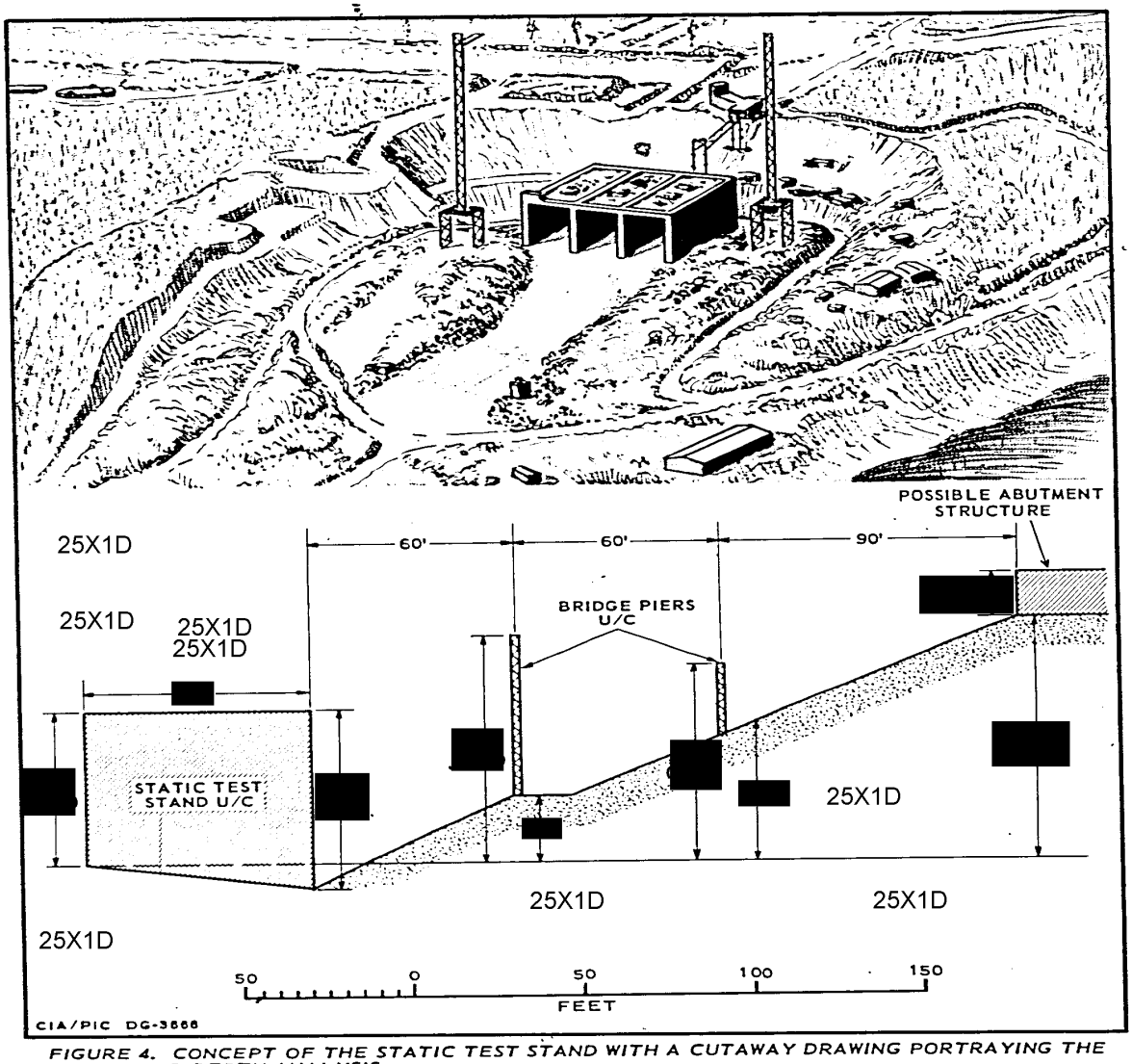

FIGURE 4. CONCEPT OF THE STATIC TEST STAND WITH A CUTAWAY DRAWING PORTRAYING THE HEIGHT AND DEPTH ANALYSIS.

25X1D

will probably be earth covered. 25X1D

(11) Probable water-storage facility under construction. This facility will include a building [redacted] and two probable water storage tanks, each [redacted] feet in diameter. 25X1D

(12) Probable water-storage facility under construction. This facility will include a building [redacted] feet and two probable water-storage tanks, each 40 feet in diameter. This facility could be used to reclaim the excess water used in a flushing operation.

(13) Liquid-storage facility under construction. This facility will include a probable pump house building [redacted] and four liquid-storage tanks, each 50 feet in diameter. 25X1D 25X1D

(14) Thermal plant under construction, [redacted], with a stack approximately [redacted] in diameter. 25X1D

(15) Two liquid-storage tanks under construction, each 50 feet in diameter. Upon completion, these tanks will probably be earth covered.

(16) Five buildings under construction. These buildings range in size from [redacted] 25X1D

(17) Three buildings under construction. One measures [redacted] 25X1D and the other two, [redacted] 25X1D

(18) Probable administration building under construction, [redacted] 25X1D feet. This building will probably be a two-story structure having a three-story center section.

(19) Security building, 45 by 25 feet.

(20) On-site quarters consisting of two probable dormitory buildings and several supporting facilities. The two probable dormitories, each of which is single-story, hip-roofed, and measuring 130 by 50 feet, should provide billets for approximately 86 single personnel.

SUPPORT AREA

The Support Area is adjacent to the village of Mikhaylovskiy, about midway between the Static Test Area and the Housing Area. The area

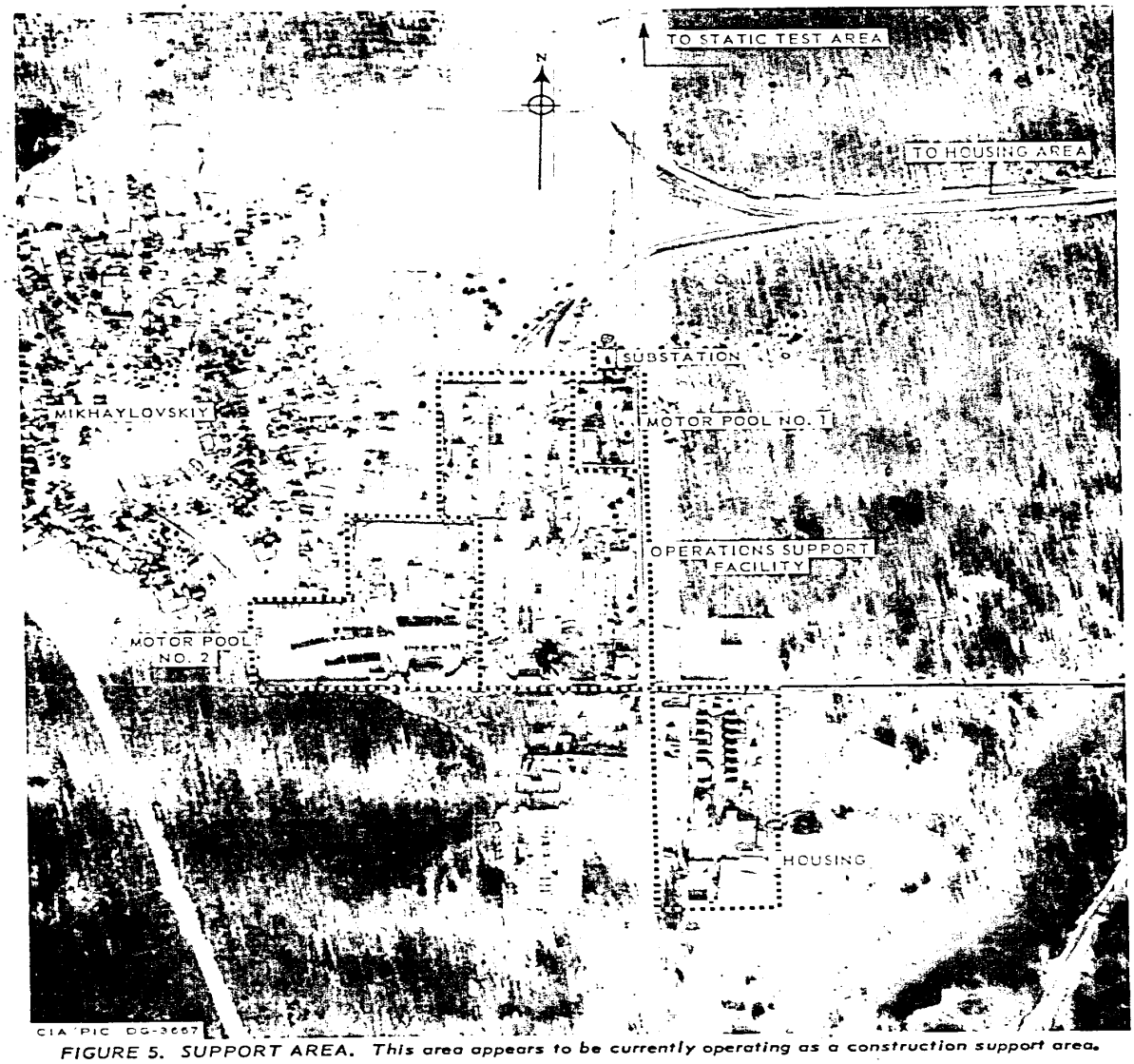

FIGURE 5. SUPPORT AREA. This area appears to be currently operating as a construction support area.

includes a substation, an operations support facility, two motor pools, and housing facilities (see Figure 5). The area at present does not have strong overall security; however, some of the facilities have been either fully or partially enclosed by board fences. As a whole, the area construction appears to be essentially complete; however, construction is continuing on the Operations Support Facility. The housing in the area could provide units for about 34 families or billets for approximately 100 single personnel. A description of the facilities, as annotated on Figure 5, follows.

Substation: This facility consists of a transformer yard and three small buildings enclosed by a board fence [redacted] 25X1D 25X1D

Motor Pool No 1: This facility, which is enclosed by a board fence [redacted] contains 2 service buildings and at least 20 vehicles. One of the two service buildings measures [redacted] and the other, 65 by [redacted] 25X1D 25X1D

Operations Support Facility: This facility, which is still under construction, is the only portion of the Support Area served by rail. It features eight long probable storage buildings, ranging in size from [redacted] to [redacted] and one other major building 105 by 65 feet. Also within the facility are a batch plant, construction material, and several small buildings. 25X1D 25X1D

Motor Pool No 2: This facility is enclosed by a board fence and contains approximately 160 vehicles, 5 servicing buildings, of which one is under construction, and an administration building. 25X1D

Housing: The housing is enclosed by a board fence 790 by 295 feet. This area includes 17 housing structures, each single-story and [redacted] a mess and/or recreational facility, and a small vehicle-servicing building. The housing could provide units for 34 families or billets for approximately 100 single personnel. The nearby village of Mikhaylovskiy does not appear to be active, and may in fact have been evacuated. Two unidentified facilities, one of which is in an early stage of construction, are north and west, respectively, of the area housing. 25X1D

FIGURE 6. HOUSING AREA. This area will have units for approximately 158 families and billets for about 425 single personnel.

HOUSING AREA

The Housing Area, which is partially under construction, is along the main rail line between Stavropol and Kuybyshev. The area includes an apartment-house section, a barracks section, a family-dwelling section, rail facilities, and water facilities (see Figure 6). Upon completion of all the housing facilities, the area will provide units for approximately 158 families and billets for about 425 single personnel. A description of the facilities, as annotated on Figure 6, follows.

Apartment-House Section: This section contains five apartment houses, which could provide apartment units for about 144 families, and several other buildings. Four of the apartment houses, three of which are in an early stage of construction, will probably be three-story structures, each measuring 170 by 40 feet, and could provide units for approximately 120 families. The fourth apartment house is also three-story, measures 110 by 40 feet, and could provide units for about 24 families.

Barracks Section: This section contains a total of 13 single-story barracks providing billets for at least 425 single personnel. Eight of the barracks measure 115 by 40 feet; the other five measure 140 by 40 feet. The section also includes a probable mess facility and utility buildings.

Family-Dwelling Section: This section contains eight single-family dwellings, each single-story and measuring 30 feet square.

Rail Facilities: These facilities include a four-track rail yard, three rail spurs, family housing, and several probable utility buildings. The rail yard is approximately 3,960 feet long, and each spur is about 590 feet long. A total of 63 conventional rail cars, including hopper, gondola, box, and tank types, are present. The family housing consists of 3 two-family dwellings, each single-story and measuring 60 by 40 feet.

Water Facilities: These facilities include a probable water-pumping station and a possible sewage-disposal facility.

25X1D

CONCLUSIONS

[redacted]

Since the test complex has no manufacturing capability, associated production facilities will probably be located in either the Kuybyshev complex, with its existing production facilities, or in the Stavropol complex, which is under construction.

Upon completion, the Stavropol complex will include heavy fabrication and chemical-processing facilities which would be adequate for an integrated missile-production capability; however, there is no photographic evidence to confirm such a mission.

It should be noted that Kurumoch Airfield, which is under construction 12 nm east of the test complex, is both rail and road served. It is possible that this airfield could provide the test complex with logistical air support either from a distant production facility or to a flight-testing range.

REFERENCES

PHOTO DATA:

25X1D [redacted] 25X1C

MAP DATA:

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